

AMENDMENTS TO THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown below.

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-15. (Cancelled)

Claim 16. (Previously Presented) A light-emitting device, comprising:

a submount comprising a mount base made of an electrically insulating material, at least one light-emitting diode chip mounted thereon and electrically conducting lines formed on the mount base to be connected electrically to the light-emitting diode chip; and

a first plate for heat transfer comprising a metallic plate,

wherein a first plane of the mount base opposed to the metallic plate of the first plate is bonded thermally to said first plate,

wherein the mount base comprises a recess, and the at least one light-emitting diode chip is mounted on a bottom of the recess,

wherein at least one groove is provided on the first plane of the mount base, and

wherein a number of said at least one groove is equal to or larger than two, the grooves have different depths, and depth of the grooves increases toward a region just below the light-emitting diode chip.

Claim 17. (Canceled)

Claim 18. (Previously Presented) A light-emitting device, comprising:

a submount comprising a mount base made of an electrically insulating material, at least one light-emitting diode chip mounted thereon and electrically conducting lines formed on the mount base to be connected electrically to the light-emitting diode chip; and

a first plate for heat transfer comprising a metallic plate,

wherein a first plane of the mount base opposed to the metallic plate of the first plate is bonded thermally to said first plate,

wherein the mount base comprises a recess, and the at least one light-emitting diode chip is mounted on a bottom of the recess,

wherein at least one groove is provided on the first plane of the mount base,

wherein the light-emitting diode chip is mounted face down to the mount base with a bonding material, and said at least one groove is formed between the bonding material and the first plane of the mount base to bond thermally to the exposed portion of the metallic plate, and

wherein a number of said at least one groove is equal to or larger than two, the grooves have different depths, and depth of the grooves increases toward a region just below the bonding material.

Claim 19. (Canceled)

Claim 20. (Previously Presented) A light-emitting device, comprising:

a submount comprising a mount base made of an electrically insulating material, at least one light-emitting diode chip mounted thereon and electrically conducting lines formed on the mount base to be connected electrically to the light-emitting diode chip; and

a first plate for heat transfer comprising a metallic plate,
wherein a first plane of the mount base opposed to the metallic plate of the first plate is bonded thermally to said first plate,
wherein the mount base comprises a recess, and the at least one light-emitting diode chip is mounted on a bottom of the recess,
wherein at least one groove is provided on the first plane of the mount base, and
wherein a number of the at least one light-emitting diode chip is equal to or larger than two, a number of said at least one groove is equal to or larger than two, the grooves have different depths, and said grooves have deeper depth in a region between a central light-emitting chip among the at least one light-emitting diode chip and the exposed portion of the metallic plate than in the other regions.

Claims 21-28. (Canceled)